

Paragraph 9-1 was superseded by ER 700-1-1, 2 October, 2000.
The balance of the document remains current.

CHAPTER 9

EQUIPMENT MANAGEMENT



9-1. Personal Property Usage (Refer to Tables 1-4 and 1-5). Usage standards serve as a yardstick that is valuable in measuring how effective we are in getting our money's worth from the resources we invest in equipment. Obviously, we want to get the most usage at the lowest possible cost, while at the same time we are adequately staffed and equipped to complete all assigned missions. Recording usage data and comparing our results with established corporate or industry standards, gives our managers insight on ways we can improve our productivity and efficiency. Historical property usage data allow us to make informed management decisions.

a. Minimum standard in days. Floating plant property identified in ER/EP 1130-2-500, will be tracked in USACE, to determine if it meets the standard of 45 days minimum annual use. This rule will also apply to all capitalized (in financial records) property that does not directly, indirectly or logically fall into any of the other property categories listed in Table 1-5. The miscellaneous category was created to ensure all applicable property will have an established standard as a usage goal to attain.

b. Usage standards measured in percentages. Personal property not identified in ER 1130-2-500, but is included in the Equipment Usage Tracking List, **Table 1-4**, should have usage tracked, recorded and the usage history compared to the usage standard percentages listed in **Table 1-5**, to determine if our equipment falls short, meets, or exceeds the applicable standard.

c. Exceptions. Property that meets the criteria in Appendix H, is exempt from usage tracking requirements. These exceptions are also listed in Chapter 3, Section IV, of ER 700-1-1.

9-2. Basis for Computations. Usage standards are generally expressed in terms of hours, days, or time used. The computations may be based on any consecutive twelve-months period and are calculated as follows:

a. Workweek. Consist of a 40-hour workweek of four 10-hour days or five 8-hour days, less Federal holiday. In other words, deduct 8 hours for each holiday in the reporting period.

b. Operational hours. The base figures of 168 hours per month or 2016 hours per year are used, less the non operation hours the equipment is in maintenance.

c. Operational days. The base figure is the total workdays in a year less the days in maintenance. A year has 251 workdays (365 minus 104 weekend days and 10 holidays = 251 days). Each month, subtract weekend days, holidays, and days in maintenance, from total days.

d. Other basis. A base figure may be developed locally for items that have usage expressed in terms other than the above, for example, rounds fired, experiments conducted or miles of operation.

9-3. Computing Use Percentages. Use percentages are computed as shown below. Workweek percentages are computed as shown above in paragraph 9-2a . Computerized programs may use 2000 miles or 168 hours per month as appropriate, for prime shift periods. Hours in excess of this amount will be allotted to extra shift operations.

a. Determine the usage on equipment that is designated by USACE for tracking, using one of the following formulas, as applicable:

(1) To compute the use percentage for personal property with miles as the basis, multiply the total miles used during the annual period by 100 and divide the product by the objective mileage.

(2) To compute the monthly use percentage for personal property with operational hours as the basis, multiply the total hours used in a month by 100 and divide the product by operational hours.

(3) To compute the annual use percentage for personal property with operational hours as the basis, multiply the total hours used in a year by 100 and divide the product by the number of operational hours in the annual period. Another method is to find the yearly average by adding the monthly usage percentage for 12 consecutive months and divides the sum by 12.

(4) To compute the monthly use percentage for personal property with operational days as the basis, multiply the number of days the personal property is operated per month by 100 and divide the product by the number of operational days in the month.

(5) To compute the annual use percentage for personal property with operational days as the basis, multiply the number of days the personal property is operated per year by 100 and divide the product by the number of operational days in the annual period.

(6) Each month, usage data should be collected and recorded for each item of personal property operated during the month, that meets the USACE criteria for tracking. ENG Form 3662 will be used for this purpose. The data should be retained for future use in making equipment management decisions. ER 700-1-1, paragraph 3-26, explains a method for consolidating monthly and quarterly usage data. An automation system may be used to capture this data if available.

b. Compute the usage percentages for other personal property by locally devised formulas when days, hours, or miles are not an appropriate basis for usage. Show local formulas in the periodic personal property usage and availability data reports, described in paragraph 3-26, of ER 700-1-1.

9-4. Recording Maintenance Costs for Parts and Labor. Chapter 5, of ER 750-1-1 explains the importance of collecting, recording, and using historical maintenance cost information as part of an equipment management program. USACE activities will document maintenance costs using DA Form 2409, Equipment Maintenance Log. Section B, Maintenance Inspection Record, pertains to preventive maintenance (PM) costs and Section C, Repair and Cost Record, is used for repair costs. In each case, record entries for total parts, total labor, and for the sum these two categories. Section D, will not be used in USACE.

9-5. Equipment Operational Rates. Equipment Operational Rates show the relationship between up time and down time in percentages. This numerical relationship is also referred to as operational availability and DoD has set equipment readiness goals or standards for Defense activities to attain. Groups of personal property in USACE that have been designated as readiness significant are listed below.

a. In general terms, most USACE equipment may be grouped into categories as follows: Construction and Engineering, Material Handling, Support, and Watercraft. The following types of equipment will be tracked for operational rates:

- (1) Construction Equipment
- (2) Special Purpose Equipment
- (3) Material Handling Equipment
- (4) Watercraft/Amphibious
- (5) Support Equipment - Generators
- (6) Support Equipment - Air Compressors
- (7) Support Equipment - Pumps
- (8) Support Equipment - Well Driller

b. Some end items may have subsystems (components) that affect the overall capability of the item. When determining if the end item is mission capable (green), consider the effect that a non operational component would have on the ability of the end item to complete its assigned mission. If the end item cannot complete the assigned mission due to a component failure, then the end item should be reported as not mission capable (red). If the component failure does not interfere with mission completion, the end item is considered mission capable (green).

c. Operational Criteria. The command's goal is to achieve equipment operational readiness rates that are 85 per cent or higher. The following definitions are provided for your use:

- (1) Status Green refers to operational rates that are 85 per cent or higher.
- (2) Status Amber refers to rates that range between 75 and 84 per cent (inclusive).
- (3) Status Red refers to rates that are 74 per cent or lower.
- (4) Reporting Periods:
 - (a) 1st Qtr - 1 Oct. - 31 Dec. = 92 possible days.
 - (b) 2nd Qtr - 1 Jan. - 31 Mar. = 90 possible days. (Add one day for a leap year)
 - (c) 3rd Qtr - 1 Apr. - 30 Jun. = 91 possible days.
 - (e) 4th Qtr - 1 Jul. - 30 Sep. = 92 possible days.

d. Equipment On-hand Quantity: The total quantity for each reportable item shown in **Table 1-4**, that the property book reflects as on-hand in the activity, on the last day of the reporting period.

e. Possible Days: The total number of days the equipment was on hand during the reporting period (i.e., 1 item = 92 days, 2 items' = 184 days in the 1st Qtr). Count from the property book date of receipt to the end of the reporting period, to find possible days for recently received property.

f. Non available Days: The number of days the personal property was not able to perform its intended mission. If the property is not mission capable at the end of the normal work day, it is considered non available the entire day. If the property is repaired prior to the end of the normal work day, it is considered available for the entire day.

g. Available Days: The total possible days minus the Non available days.

h. Operational Rate: The percentage of available days based on the possible days. Formula: Total available days divided by the total possible days, multiplied by 100 equals the operational rate, expressed as a percentage. **Example:**
$$\frac{\text{Available Days (100)}}{\text{Possible Days}} = \text{Operational Rate}$$